RESOURCE MANAGEMENT GUIDE

DRAFT

State Forest: Morgan-Monroe **Compartment:** 17 **Tract:** 02
Forester: Amy Zillmer **Date:** November 14, 2008
Management Cycle End Year: 2028 **Management Cycle Length:** 20 Yrs

Location

This tract is located at the end of Bruce Lane, south of State Road 45. More specifically, in parts of the S ½ Section 11, T9N, R1E, Benton Township, Monroe County. This tract is approximately 1.75 miles east of Unionville.

General Description

This tract covers 105 acres of which 90 are commercial. Oak-hickory and mixed hardwoods are common across tract.

History

The present day tract is a collaboration of purchases from Fred and Mildred Huntington in 1950, grants by the U.S. government in 1965, and grants by James and Dorothy Wray, and Jesse, Vesta, and Flossie Burks in 1954.

Management records as state forest go back until 1986. An inventory (1 point/ 5 acres) by Forester Breedlove was done across the tract. Inventory results reported a total standing volume of 9,731 BF/ac. A timber sale was marked and sold in 1988. The harvest was aimed at removing poor formed stems in old field areas and releasing understory oak trees. Two small openings were made in areas that had low-grade timber. 104,560 BF est. in 573 trees (182 BF/tree) and 118 culls were sold to Foley hardwoods for $18,188.00 (.17/BF). Following harvest, this tract and adjacent were marked for a commercial firewood sale.

This tract was up for a new management guide for the 2008/2009 fiscal year. An inventory (1 point/ 3 acres) was completed on September 10, 2008. Result are described further in this plan

Landscape Context

This portion of the state forest lies on the north end of a large contiguous block of publically owned forest. Due to this, both closed canopy forests and scattered residences are common. Some of the land to north is used for agriculture.

Topography, Geology and Hydrology

The tract consists of a curvy ridgetop with several fingerlike ridges extending to the north, south, east and west. The tract's bedrock is comprised of shale. Ephemeral and unmapped intermittent drainages flow south into Baby Creek and west into Brummett Creek. Both creeks eventually drain into Lake Monroe.

Soils

BkF-Berks-Weikert Complex

This soil is found on the upper ridgetops and sideslopes. This complex forms from loamy-skeletal residuum over shale and sandstone. This soil has severe limitations for haul roads, yards, and equipment operability due to slopes and low strength. This soil has a site index of 60 for northern red oak and 70 for yellow poplar.

WmC- Wellston Gilpin silt loam

This soil is found mainly on ridge tops and side slopes. This soil forms from loess over loamy residuum over shale 46" under surface. Slopes generally range from 6 to 20% slopes. WmC is well drained with a moderate to low available water capacity. Severe hazards to erosion due to silty loam texture. This soil holds a 71 site index.

Access

This tract has extremely good access. A well established lane along the eastern boundary connects to Bruce Lane south of SR 45.

Boundary

As previously stated, much of the eastern boundary is a fire lane. This boundary then splits away from the lane and follows a drainage to the south. The rest of the boundaries also serve as property lines. The boundaries are up to date and have recently been repainted in the 08/09 fiscal year.

Wildlife

This tract is host to variety of animals. Steady food sources in the form of hard mast are abundant. Signs of rabbit, squirrels, turkey, chipmunks, deer, and numerous songbirds were noted. Snag and cavity trees densities and size classes were recorded during inventory.

Indiana Bat Habitat Guidelines

Live Tree's-Entire Tract – Desired Species Only*

	Required	Inventory	Available for Removal
11" DBH+	765	802	37
20" DBH+	255	344	89

Snags – Entire Tract – All Species

	Required	Inventory	Available for Removal
9" DBH+	510	91	-419
19" DBH+	85	21	-64

***Desired Species include**: AME, BIH, BLA, BLL, COT, GRA, REO, POO, SAS, SHH, ZSH, SHO, SIM, WHA, WHO*

Although the tract is currently exceeding desired live tree densities, it is deficient in both categories of snag densities. Deficiencies could be attributed to the fact that snags often form in clump instead of uniformly across tract. Post-harvest TSI could incorporate snag creation in both size classes to increase the amount of viable Indiana Bat habitat.

Recreation

This tract does not contain any established recreation. Due to the ease of entry off of Bruce lane, hunting is very common. Other uses may include hiking, gathering, and wildlife viewing. Several illegal ATV trails were noted along the northern property boundary.

Cultural

Cultural resources may be present on the tract but their location is protected. Adverse impacts to significant cultural resources will be avoided during any management or construction projects.

Tract Subdivision Description and Prescription

Forest Condition

Presently the tract contains a wealth of mature timber. The recent inventory reported 830,910 BF (7,913 BF/ac) across tract of which 337,920 BF (3,218 BF/ac) were harvestable and 492,980 BF (4,695 BF/ac) were reserved as growing stock. There are 98.2 square feet of basal area per acre. 294 stems per acre (108 submerchantable) were tallied across tract. The tract is fully stocked at about 92%.

Table 1. Board foot Volume Estimates Harvest/Leave (Doyle)

Species	Harvest	Leave	Total
Yellow Poplar	79,210	95,800	175,020
Black Oak	78,110	105,980	184,090
Northern Red Oak	40,080	64,580	104,660
Red Maple	25,990	4,240	30,230
White Oak	19,240	115,120	134,360
Chestnut Oak	18,020	41,030	59,050
American Beech	16,700	2,380	19,080
Largetooth aspen	12,050	3,730	15,780
White Ash	10,230	6,410	16,640
Pignut Hickory	7,700	25,430	33,130
Sugar Maple	7,250	6,210	13,460
American Elm	6,160	0	6,160
Red Elm	5,440	0	5,440

Sassafras	3,620	8,600	12,220
Scarlet Oak	3,400	3,230	6,630
Basswood	2,640	0	2,640
Blackgum	2,080	5,100	7,180
Bitternut Hickory	0	3,120	3,120
Shagbark Hickory	0	2,020	2,020
Totals	**337,920**	**492,980**	**830,910**
Totals/acre	**3218**	**4695**	**7913**

Oak Hickory

This stand division covers the majority of the tract (87 acres). The inventory reported 689,040 BF (7,920 BF/ac) with 254,040 BF (2,920 BF/ac) being harvestable and 435,000 BF (5,000 BF/ac) left as growing stock. Presently this stand holds 99.2 square feet of basal area per acre and is fully stocked (91%).

Dominating overstory trees include white oak, northern red oak, and black oak. The understory layer was fairly diverse. Overwhelmingly it was dominated my sugar maple. However, notable amounts of black oak, chestnut oak, red oak, hickory, red maple, sassafras, American beech, and white oak were reported. Regeneration is dominated by shade tolerant beech/maple stems.

In many areas, shorter lived species like yellow poplar and black oak are experiencing decline and could be removed to favor longer lived species and higher quality stems. In general, single tree selection to thin the stand from both above and below is recommended. This would help to remove poor formed stems and improve spacing. In areas of mature timber, poor quality, or low stocking group selection openings may be implemented to regenerate portions of stand.

Mixed hardwoods

This stand covers about 18 acres of tract. The inventory reported 142,020 BF (7,890 BF/ac) with 72,900 BF (4,050 BF/ac) being harvestable and 69,120 BF (3,840 BF/ac) left as growing stock. Presently this sand holds 95.3 square feet of basal area per acre and is fully stocked (88%).

Currently, the overstory is dominated yellow poplar. Understory volume is primarily in sugar maple and sassafras. Regeneration is dominated by American beech. Much of the overstory poplar is reaching maturity and could be thinned or regenerated. Care should be taken to thin actively growing stand to favor higher quality stems and a wider diversity of species.

Tract Prescription and Proposed Activities

In general, the recommendation of this guide is for a timber harvest. This area could be marked and sold in the 09/10 fiscal year. Since the firelane was just

recently refurbished to accommodate a private timber sale south of state property, little work needs to be done. A yard could be brushed out in an old opening that has undesirable regeneration (sassafras) along the main ridge. Actual harvest volumes area expected to be between 250,000-275,000 BF. If group selection methods are employed it is recommended that a follow up TSI be performed in any regeneration opening along with crop tree release in old openings from 1980's harvest. Cull trees could also be girdled to increase tracts snag density. Tract will be reinventoried in the 2028/29 fiscal year.

Proposed Activities Listing	***Date***
Brush out Yard	2009
Mark Timbersale	09/10
Sell Timbersale	09/10
Post-harvest TSI	2010
New Management Guide	2028/29

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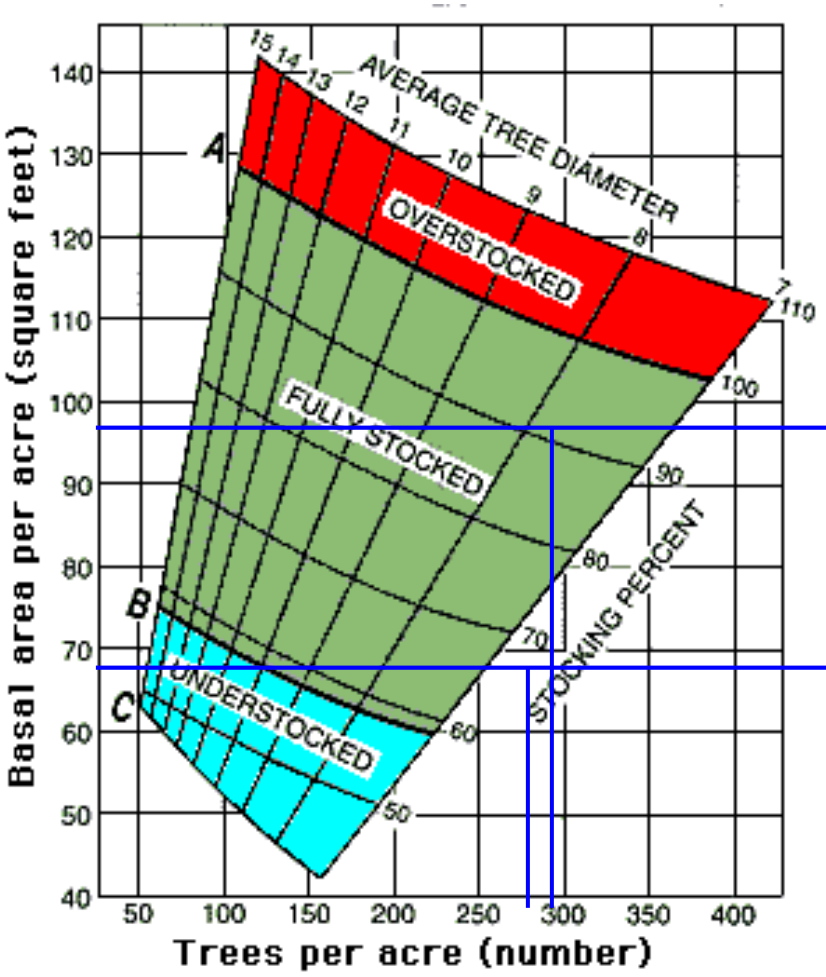
Gingrich Stocking Charts
Morgan Monroe State Forest
Compartment 17 Tract 02



Current
98.2 BA
294 Trees/acre
92% Fully Stocked

Leave Stand
69.6 BA
278 Trees/ac
68% Fully Stocked